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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/578,224	05/24/2000	Thomas Schwalbe	CELL0013	4618

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BELLEVUE, WA 98004

EXAMINER
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LEUNG, JENNIFER A

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 07/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/578,224

Applicant(s)

SCHWALBE ET AL

Examiner

Jennifer A. Leung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14, 16-18, 22-24, 26 and 71-77 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 77 is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-18, 22-24, 26 and 71-76 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5-4-2005</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 4, 2005 has been entered.

### ***Response to Amendment***

2. Applicant's amendment submitted on May 4, 2005 has been received and carefully considered. The drawings submitted on May 4, 2005 are acceptable. Claims 15, 19-21, 25 and 27-70 have been cancelled. Claims 1-14, 16-18, 22-24, 26 and 71-77 remain active.

### ***Oath/Declaration***

3. This application presents a claim for subject matter not originally claimed or embraced in the statement of the invention. The subject matter is the simple plate reactor as described in U.S. Application No. 09/496,999, now the parent application of the instant application. A supplemental oath or declaration is required under 37 CFR 1.67. The new oath or declaration must properly identify the application of which it is to form a part, preferably by application number and filing date in the body of the oath or declaration. See MPEP §§ 602.01 and 602.02.

### ***Specification***

4. It is unclear as to the insertion location of the new paragraphs presented on page 2, line 16 to page 3, line 30 in the response of May 4, 2005. On page 25 of the original specification, there is no paragraph and heading beginning at line 29. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-14, 16-18, 22-24, 26 and 71-75 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, “the apparatus” (lines 25, 26 and 29) lacks proper positive antecedent basis. Also, it is unclear as to the relationship of the “passages” (i.e., plural) in line 22 to the “at least one passage” (i.e., singular or plural) in line 21. For instance, in the case of one passage, the plural “passages merging within the apparatus to form a reaction chamber” recited in line 22 would lack proper positive antecedent basis.

Regarding claim 71, “the apparatus” (line 26) lacks proper positive antecedent basis.

Regarding claim 75, “the apparatus” (lines 15, 16) lacks proper positive antecedent basis. Also, it is unclear as to the relationship of the “passages” (i.e., plural) in line 16 to the “at least one passage” (i.e., singular or plural) in line 15. For instance, in the case of one passage, the plural “passages merging within the apparatus to form a reaction chamber” recited in lines 16-17 would lack proper positive antecedent basis. Furthermore, it is unclear as to where the limitation of, “at least one simple plate immediately adjacent to an opening defining at least one of the at least one heat exchanger having a thickness of at least about 0.2 millimeters and not more than about 0.6 millimeters,” in lines 19-21 is located in the specification and drawings. It is noted that in the response submitted on May 4, 2005, page 3, lines 26-30, sets forth that, “the thickness of the intermediate simple plates that are adjacent to a heat exchanger is about 0.3 millimeters.”

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Furthermore, FIGs. 16, 17A-C, and 18A-C and the specification (on page 7, lines 10-25 of the response) disclose that each of the simple plates 130, 160, 180, 200, 220 and 240 immediately adjacent to an opening defining at least one of the at least one heat exchanger 124, 146, 193, 133a and 133b in simple plates 120, 140, 150, 190 and 230 have a thickness of 0.3 millimeters.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1-3, 5-7, 9-11, 13, 14, 16, 17 and 71-76 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-43 and 46-55 of US 6,537,506 in view of Bard (US 5,580,523) and Agrafiotis et al. (US 5,463,564).

U.S. '506 claims a reactor comprising a plurality of simple plates stacked in layers, substantially the same as the instantly recited reactor (see U.S. '506 claims 1, 2, 8-14, 17-19, 29-32, 46-50, 53, 54). In operation, the chemical reactor is inherently in fluid communication with a

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reactant supply source, as evidenced by the reactor defining at least one passage for a plurality of chemicals, for forming a chemical product. U.S. '506 further claims the accommodation of a plurality of operations in the reactor, wherein the operations include at least one of controlling a temperature, controlling a chemical residence time, mixing the chemicals, and reacting the chemicals (see U.S. '506 claims 6 and 7). U.S. '506, however, is silent as to claiming the instantly recited "control module" for controlling the operations stated above.

Agrafiotis et al. (FIG. 1, 2, 11) teaches a computer-based system for iteratively generating chemical entities utilizing apparatus such as the Chemical Synthesis Robot **112** (column 7, lines 34-44; column 8, line 22 to column 9, line 38), wherein the system includes a control module comprising a processor **106** (column 7, lines 48-55), a reaction database (for synthesizing the Directed Diversity Chemical Library **208** using stored Structure-Activity Data **210** and Historical Structure-Activity Data **212**; column 7, lines 5-27) and a user interface (input devices **121**; column 8, lines 7-14). The control module enables a user to interact via interface **121** to select a specific reaction to produce a desired chemical product (lead compound **216**) from a plurality of stored reactions, so that in response to a selection made by a user, the processor **106** automatically controls the Synthesis Robot **112** (via logic **108**) to produce the product **216** according to the stored reaction parameters (synthesis instructions **204**). It would have been obvious for one of ordinary skill in the art at the time the invention was made to supply the control module as taught by Agrafiotis et al. to the claimed apparatus of U.S. '506, on the basis of suitability for the intended use thereof, because the control module includes a reaction database that provides a means for the storage of chemical property data from previously synthesized compounds, thereby enabling the iterative generation of directed, new

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synthesis instructions for controlling future chemical compound synthesis, as taught by Agraftotis et al. (column 3, line 28 to column 4, line 16).

U.S. '506 is further silent as to claiming the reactor being incorporated as a replaceable reactor in a first reaction module, or additional reaction modules, that are in fluid communication with each reactant supply source and controllably connected to a control module.

Bard (FIG. 4) teaches an apparatus comprises a reactor **R** that is incorporated as a replaceable reactor (i.e. configured as a detachable and interchangeable reaction chip type unit; column 2, lines 32-47; column 4, lines 53-64) in a reaction module that is in fluid communication with a reactant supply source **A**, **B** and controllably connected to a control module (i.e., interface **90** communicating with master control center or computer. Note that reference **90** is unlabeled in FIG. 4). It would have been obvious for one of ordinary skill in the art at the time the invention was made incorporate the claimed reactor in U.S. '506 in a first reaction module, on the basis of suitability for the intended use, because "[t]he modular nature... allows for the use of one or more of the same type of reactor, or a variety of different types of reactors... The reactors... are capable of being used individually, together, and interchangeably with one another... The modular nature of the system, component parts, e.g., the reactors, flow channels, sensors, detectors, temperature control units, allows easy replacement and/or interchangeability of the component parts and provides a versatility not offered by existing systems," as taught by Bard (column 2, lines 33-47).

#### ***Response to Arguments***

7. Applicant's arguments with respect to claims 1-14, 16-18, 22-24, 26 and 71-75 have been considered but are moot in view of the new ground(s) of rejection, necessitated by amendment.

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***Allowable Subject Matter***


8. Claims 4, 8, 12, 18, 22-24 and 26 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. Claim 77 is allowable.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Leung whose telephone number is (571) 272-1449. The examiner can normally be reached on 8:30 am - 5:30 pm M-F, every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer A. Leung  
July 18, 2005 

  
**HIEN TRAN  
PRIMARY EXAMINER**